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C - RemarksI. Claims Amendments:

The claims have been amended in order to better characterize the invention, in particular in view of the teachings of Tsuge et al. (US 2001/0002791). Claim 20 has been cancelled. New claim 39 has been added and claim references have been changed in order to put the set of claims in accordance with this change.

No new matter has been added by way of these amendments.

For sake of clarity, amendments to the claims are reflected in the enclosed listing of claims.

II. Claims Rejections under 35 USC 102 and 35 USC 103:

The Examiner rejected claims 20, 23, 27-28, 32-33 and 36 under 35 USC 102(b) as being anticipated by Tsuge et al. (US 2001/0002791).

Applicants would like to further insist on significant differences between Tsuge et al and the device according to that invention since it seems that important divergent points have been missed in the previous arguments supplied to the examiner.

Applicant has provided new claim 39 in order to clarify these distinctions between the cited prior art and the claimed invention.

The device according to the invention is a specific sensor and related electronics that makes possible to use the power supply input also as output that carries information about rotation speed and direction at the same time. Applicant does not intend to cover the idea of using the signal frequency for measuring the rotational speed in itself, since Applicant acknowledges this is prior art.

The device according to the invention rather intends to protect a specific arrangement that has achieved miniaturisation by finding means to decrease the amount of needed electronics and material for detecting direction and speed of rotation. The device therefore proved a simple and efficient analog front-end electronics to generate current consumption patterns that carry both direction and speed information.

Tsuge et al. teaches a device for processing a detected signal for a rotating sensor. Tsuge et al. fails to teach the generation of a unique signal that would incorporate the

speed and direction of rotation of the rotating sensor. As showed in figure 2, the rotating sensor comprises a current (P1) to supply power and a second, different, current output (P2) to convey information. This is not the case in the device according to the invention and it is only the modulation of the supply current (Iout) that serves for power and information conveyance purposes (see fig.1).

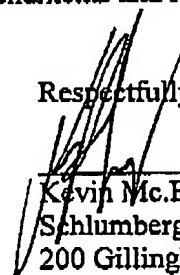
None of the other teachings, namely Ott et al. (US6,282,954), Shinjo et al. (US6,630,821), Kessler (US6,859,000), Gauthier et al. (US2002/0149275) or Daigle (US5,715,162) clearly reveals or even suggests to determine with a single supply current pattern both the direction and speed of rotation of an object.

Thus, Applicants are of the opinion that amended claim 39, focusing on the fact that the modulation of the supply current reflects both the direction of rotation of the object and the speed of said object by respectively its form and by its frequency or the number of its transitions, as explained hereinbefore, is new and inventive. Consequently, the dependent claims are also new and inventive. Thus, the amended claims including all the dependent claims should be allowable over the prior art.

Applicant is of the opinion that this reply is fully responsive to all outstanding issues. Accordingly, the application is now deemed to be in condition for allowance, and favorable reconsideration on the basis of these amendments and remarks is solicited.

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Respectfully submitted,

  
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